



wherein each of R¹, R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, R¹² and R¹³ is independently selected from the group consisting of hydrogen, (C₁-C₄)alkyl, (C₁-C₄)alkenyl, (C₁-C₄)alkynyl, (C₆-C₁₀)aryl, (C₁-C₁₀)heteroaryl, (C₃-C₈)cycloalkyl and (C₁-C₁₀)heterocyclyl; wherein each of said (C₁-C₄)alkyl, (C₆-C₁₀)aryl, (C₁-C₁₀)heteroaryl, (C₃-C₈)cycloalkyl and (C₁-C₁₀)heterocyclyl may be optionally substituted on any of the ring carbon atoms capable of forming an additional bond with 1-3 substituents per ring independently selected from halo, (C₁-C₄)alkyl, (C₁-C₄)alkoxy, -CN, -OH and -NH₂;

X is (C₆-C₁₀)aryl or (C₁-C₁₀)heteroaryl;

Y is selected from the group consisting of a bond, oxygen, sulfur, >C=O, >SO₂, >S=O, -CH₂-, -CH₂O-, -O(CH₂)ₙ-, -CH₂S-, -S(CH₂)ₙ-, -CH₂SO-, -CH₂SO₂-, -SO(CH₂)ₙ-, -SO₂(CH₂)ₙ-, -NR¹⁴, -NR¹⁴(CH₂)ₙ-, -CH₂[N(R¹⁴)]-, -CH₂(CH₂)ₙ-, -CH=CH-, -C≡C-, -[N(R¹⁴)]-SO₂- and -SO₂[N(R¹⁴)]-;

n is an integer from one to four;

R¹⁴ is hydrogen or (C₁-C₄)alkyl;

Z is selected from the group consisting of (C₆-C₁₀)aryl, (C₃-C₈)cycloalkyl, (C₁-C₁₀)heterocyclyl and (C₁-C₁₀)heteroaryl; wherein one or two carbon-carbon single bonds of said (C₃-C₈)cycloalkyl or (C₁-C₁₀)heterocyclyl may optionally be replaced by carbon-carbon double bonds;

wherein each of said X or Z may be independently optionally substituted on any of the ring carbon atoms capable of forming an additional bond by one or two substituents per ring independently selected from F, Cl, Br, CN, OH, (C₁-C₄)alkyl, (C₁-C₄)perfluoroalkyl, (C₁-C₄)perfluoroalkoxy, (C₁-C₄)alkoxy and (C₃-C₈)cycloalkyloxy;

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G is R¹⁵-(CR¹⁶R¹⁷)_p; wherein G is a substituent on any ring carbon atom of Z capable of forming an additional bond and is oriented at a position other than alpha to the point of attachment of the Z ring to Y;

p is an integer from 0 to 4;

R¹⁵ is independently selected from the group consisting of halo, -CN, -NO₂, OH, (C₁-C₄)alkenyl, (C₁-C₄)alkynyl, (C₁-C₄)perfluoroalkyl, perfluoro(C₁-C₄)alkoxy, R¹⁸-, R¹⁸-O-, R¹⁸-(C₁-C₄)alkyl-O-, R¹⁸-(C=O)-, R¹⁸-(C=O)-O-, R¹⁸-O-(C=O)-R¹⁸-S-, R²²-(S=O)-, R¹⁸-(SO₂)-, R²²-(SO₂)-(NR²¹)-, R¹⁹-(C=O)-(NR²¹)-, R²²-O-(C=O)-(NR²¹)-, (R¹⁹R²⁰)N-, (R¹⁹R²⁰)N-(SO₂)-, (R¹⁹R²⁰)N-(C=O)-; (R¹⁹R²⁰)N-(C=O)-(NR²¹)- and (R¹⁹R²⁰)N-(C=O)-O-;

each of R¹⁶ and R¹⁷ are independently selected from hydrogen and (C₁-C₄)alkyl; or R¹⁶ and R¹⁷ may optionally be taken together with the carbon to which they are attached to form a 5 to 10-membered carbocyclic ring;

R¹⁸, R¹⁹, R²⁰ and R²¹ are independently selected from the group consisting of hydrogen, (C₁-C₄)alkyl, (C₆-C₁₀)aryl, (C₃-C₈)cycloalkyl, (C₁-C₁₀)heteroaryl and (C₁-C₁₀)heterocyclyl; wherein said (C₆-C₁₀)aryl, (C₃-C₈)cycloalkyl, (C₁-C₁₀)heteroaryl and (C₁-C₁₀)heterocyclyl moieties may be optionally substituted on any of the ring carbon atoms capable of forming an additional bond by one to three substituents per ring independently selected from F, Cl, Br, CN, OH, (C₁-C₄)alkyl, (C₁-C₄)perfluoroalkyl, (C₁-C₄)perfluoroalkoxy, (C₁-C₄)alkoxy, amino, (C₁-C₄)alkyl-NH-, [(C₁-C₄)alkyl]₂-N- and (C₃-C₈)cycloalkyloxy; wherein said (C₃-C₈)cycloalkyl and (C₁-C₁₀)heterocyclyl moieties may also optionally be substituted by oxo; wherein said (C₁-C₁₀)heteroaryl and (C₁-C₁₀)heterocyclyl moieties may optionally be substituted on any ring nitrogen atom able to support an additional substituent by one to two substituents per ring independently selected from the group consisting of (C₁-C₄)alkyl and (C₁-C₄)alkyl-(C=O)-;

or R¹⁹ and R²⁰ may optionally be taken together with the nitrogen to which they are attached to form a 3 to 8-membered heterocyclic ring;

or R¹⁹ and R²¹ may optionally be taken together with the nitrogen, the carbon or the oxygen to which they are attached to form a 3 to 8-membered heterocyclic ring;

R²² is selected from the group consisting of (C₁-C₄)alkyl, (C₆-C₁₀)aryl, (C₃-C₈)cycloalkyl, (C₁-C₁₀)heteroaryl and (C₁-C₁₀)heterocyclyl; wherein said (C₆-C₁₀)aryl, (C₃-C₈)cycloalkyl, (C₁-C₁₀)heteroaryl and (C₁-C₁₀)heterocyclyl moieties may be optionally substituted on any of the ring carbon atoms capable of forming an additional bond by one to three substituents per ring independently selected from F, Cl, Br, CN, OH, (C₁-C₄)alkyl, (C₁-C₄)perfluoroalkyl, (C₁-C₄)perfluoroalkoxy, (C₁-C₄)alkoxy, amino, (C₁-C₄)alkyl-NH-, [(C₁-C₄)alkyl]₂-N- and (C₃-C₈)cycloalkyloxy;